EVANESCENT CONGENITAL PIGMENTATION IN THE SACRO-LUMBAR REGION

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The subject of this paper is one which for some time has created considerable interest among French and German men of science, and my object in presenting it here is not to record any new observation but solely to call to the attention of American anthropologists the various aspects of the questions therein concerned.

Among certain of the darker races, a large percentage of the children present in the sacro-lumbar region one or more well-defined pigmented areas, varying in size, and ranging in color from an almost imperceptible gray to a blue-black or black. Such a color area may, as in the case observed by Dr Chemin,[1] extend downward and upward so as to cover the whole dorsal surface, from thigh to shoulder, including the posterior facies of the arms; in other instances, the more strictly localized sacro-lumbar pigmentation is associated with similar marks in the scapular and interscapular region.

Prof. E. Bælz, of Tokio, who was the first to record its observation and who has shown in the last quarter of a century a constant devotion to the subject, noted the appearance of such pigmented localities in the prenatal life of the Mongolian (Japanese?).[2] The record of all other authorities commences at birth, from which

[1] Chemin, "Note sur les taches congenitales de la region sacro-lumbaire chez les Annamites." *Bull. de la Soc. d'Anth. de Paris*, 1899, p. 131.

[2] "Zur Frage von der Klassen-Verwandtschaft zwischen Mongolen und Indianern." *Verh. der Berl. Gesell. f. Anth., Ethnol., u. Urgesch.*, 1901, S. 394. "Bei dem Mongolenfœtus habe ich Spuren von diesen Flecken im 4. Monat nachweisen können."

time until the child has reached an age varying from two to eight years (apparently depending more on individual peculiarities than on geographical locality), the blotches are visible with gradually decreasing distinctness. It was doubtless owing to its publication in a Japanese scientific journal[1] that the notice by Bælz long remained without confirmation by other observers, either for Japan or for other countries.

In 1893 Søren Hansen made known the results of his anthropological studies on the much mixed Inuit of West Greenland, and called attention to the presence upon some Eskimo neonati of discolorations, sometimes "so faint as scarcely to show," again of the deep blue of a bruise. He specifies and figures only four cases, two observed by himself, one by Dr Binzer, and one by Mr Ryder, although the wording of his communication leaves it to be inferred that more were known to him, at least by report.[2]

In 1896 Dr Matignon, a practising physician of Pekin, noted its frequency among the native children of that city,[3] and, in presenting the paper, Dr Collignon referred to a brief mention of evanescent congenital pigmentation among a number of Philippine tribes.

Three years more elapsed before Dr Chemin[4] called attention to the same characteristic markings upon the children of the Annamese of Cochin China and Tonkin, of the southern Chinese, of the Chinese-Annamese and Chinese-Siamese mestizos, and of the reputed full-blood Siamese of Bankok.

Closely following this, Dr Kohlbrügge,[5] in a communication regarding the anthropology of the Malay archipelago, postulates,

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[1] *Mitth. Deut. Gesell. f. Nat. u. Völkerkunde Ostasiens*, Bd. IV, S. 40.

[2] "Bidrag til Vestgrønländernes Anthropologi." *Meddelelser om Grønland*, Heft 7, S. 237–238.

[3] J. J. Matignon, "Stigmates congenitaux et transitoires chez les Chinois." *Bull. de la Soc. d'Anth. de Paris*, 1896, p. 524.

[4] Chemin, loc. cit., p. 130.

[5] Kohlbrügge, "Anthropologische Beobachtungen aus dem Malayischen Archipel." *Verh. d. Ber. Gesell. f. Anth., Ethnol., u. Urgesch.*, 1900, S. 398.

on the authority of a seven years' residence in that vicinity, the presence of these congenital stigmata among "all Malay and Indonesian peoples" — presumably within that circumscribed area.

W. von Bülow, whose interest in Polynesian anthropology is well known, was the next to come forward with information in regard to this much discussed character, determining its presence upon Samoan children of full and three-quarter blood, its absence upon those of half and quarter blood.[1] Von Bülow states that he has never seen more than a single discoloration of this character upon any child, and that such may be located upon other parts of the body. He distinguishes three types of birthmark, of which the second is permanent and appears to be the true nævus maternus.

In an article relating to the significance of evanescent congenital pigmentation, Monsieur Deniker[2] extends its known geographical range to Java, Korea, and Hawaii on the authority of a personal letter from Dr ten Kate.

This information has since been made public by Dr ten Kate[3] in a thoughtful paper in which the earlier data accessible to him are critically discussed. He found two forms of birthmark differentiated by the Hawaiians,—that type which forms the subject of the present essay and a second permanent red nævus, evidently

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[1] W. von Bülow, "Die Geburtsflecken der Samoaner." *Globus*, Bd. LXXVIII, S. 209. "Bei Ehen in denen die eine Partei samoanischen Ursprungs, die andere Partei aber Halbblut aus Samoaner und Kaukasier ist, *kommt* dieses Zeichen der Kinder *meistens* — nicht immer — *vor*. Bei Verbindung von Weissen mit Samoanern oder mit Halbblut Samoanern kommt dieses Zeichen an den Kindern *meistens nicht* vor. Die Samoaner behaupten das dieses Mal ein sicheres Zeichen der Samoanischen Abstammung sei." The italics are mine. I quote the passage in full, since the personal equation seems to have entered into the translation by the distinguished anthropologist, M. Deniker, when he remarks "cette tache . . . sert de signe pour reconnaitre les Samoans pur-sang car elle *ne reparait jamais* chez les enfants issus de l'union de blancs avec les Samoans purs ou demi-sang; elle est *même rare* chez les enfants nés des parents Samoa et demi-sang." — Les taches congenitales dans la region sacro-lombaire considerées comme caractère de race. *Bull. de la Soc. d'Anth. de Par.*, 1901, p. 277.

[2] J. Deniker, loc. cit., p. 278.

[3] Der Pigmentflecken der Neugeborenen, *Globus*, Bd. LXXXI, S. 239.

corresponding to von Bülow's third type. In the interracial marriages of Japan he recognizes, as did Bælz, a dependence of the frequency of its presence on the degree of blondness of the European father. His knowledge regarding Java proves to be based on personal communications from his colleagues, Dr Baumgarten and Dr Kohlbrügge, the former of whom noted at least one instance of permanency of these pigmented areas and gave about 90 as the percentage in which the evanescent discolorations occur upon the issue of Europeo-Javanese unions. No evidence relating to Korea is here brought forward by Dr ten Kate.

With the exception of the foregoing, the latest information[1] on the subject, so far as my knowledge goes, comes simultaneously from Messrs Riedel and Bælz. The former records having "observed the so-called Mongolian marks upon children of the Celebes and other Indonesian islands — even upon a young Papua girl." The latter notes its appearance on two Amerind children.

Thus, the geographical area throughout which this evanescent nævus is known to occur, more or less sporadically, extends from Greenland on the east to Madagascar[2] on the west—Danish Greenland, Vancouver, Hawaii, Samoa, Corea, Japan, China, the Philippines, the Celebes, Java, Malay archipelago, Indo-China, and Madagascar. As will be seen, it embraces more than one ethnic division,—Amerindian, Polynesian, Papuan, Malayan, Indonesian, Negritan, and Mongolian.

Basing their hypothesis on the ground of its great frequency among children of Mongolian race, and overlooking its apparently equal prevalence among the Samoans, both Bælz[3] and Deniker

[1] *Verh. der Ber. Gesell. f. Anth., Ethnol., u. Urgesch.*, 1901, S. 393.

[2] Chemin, loc. cit., p. 132. "Un de mes camarades m'affirm avoir remarqué le même caractère chez les enfants Malgaches."

[3] Indeed Bælz goes so far as to say: "Every Chinese, every Korean, every Japanese, every Malay is born with a dark blue . . . mark" (loc. cit. S. 188)—a statement wholly unwarranted by the fact that less than half a dozen men have observed certain definite, though large proportions of cases wherein the stigmata occur. The highest which I have found recorded is 89 % (Chemin), which is greatly in excess of any other statistical datum.

elevate the evanescent congenital pigmentation to the position of a racial character, and ascribe to it Mongolian or Mongoloid significance. Søren Hansen, on the other hand, who knew of it only in West Greenland and Japan, but shrewdly suspected its presence in southeastern Asia, attributes it to a substratum of Negritan ancestry.[1]

Great stress is laid by Deniker on the fact that both the West Greenland Inuit and the Samoans regard such marks as a sign of pure descent—i. e. from natives relatively free from intermixture with the white race. This is, at most, an interesting item of folklore. The natives of Samoa are much crossed with immigrating peoples from other island groups, while it "is doubtful if a single Eskimo of pure blood can be found along all the west coast" of Greenland.[2] Had Hansen's observations been made on the Inuit of Alaska, where the foreign element has been introduced largely by intercontinental trading and by whaling vessels with their Polynesian sailors, it could have possessed no weight. As it is, the occurrence has remained unexplained, save as the survival of a racial character either Mongolian or Negroid in type.

[1] Hansen, loc. cit. "I desire, however, to direct attention to the possibility that it may indicate, as it were, an atavistic rudiment, a sort of a token of descent from a swart race element; neither is such far to seek, since it has (already) been pointed out in southern Japan. Yet is this solely a guess, but in any case that is no reason that one lull himself to rest with the thought that it turns upon a simple curiosity, and, as for the rest, one finds here and there in West Greenland divers individuals whose very dark skin color points in the same direction. Meanwhile this question can best be solved by closer researches in Japan and southern East Asia, and such are not yet forthcoming."

[2] Ibid. Résumé, p. 274. M. Deniker, in quoting Hansen, has unfortunately overlooked the word *stærkt*, "strongly," which materially alters the meaning. For this reason, and because the Danish publication is not very accessible, I give the sentence at length with its translation: "Denne Ejendommelighed, som synes et være konstant hos Japaneserne, og som utvivlsomt ogsaa findes hos andre estasiatiska Folkeslag, betragtes af Vestgrønlænderne som et sikkert Tegn paa en ren eskimoisk Afstamning, hvad den ogsaa synes at være forsaavidt som den ikke vides a være iagttaget hos Børn af stærkt krydset Afstamning," p. 237. This peculiarity, which seems to be constant with the Japanese and undoubtedly also occurs among other East Asiatic peoples, is regarded by West-Greenlanders as a sure token of a pure Eskimo origin, which it also seems to be in so far as it is not known to be observed among children of strongly crossed origin.

In view of the present setting of a current of fashion in matters anthropological, in the direction of the tripartite division of the human species, proposed by the writers of the early half of the last century, it is not surprising that Herr Bælz calls for a study of the "Alpine race" of Europe with the object of establishing the presence of transient pigmentation upon the neonati and hence the Mongolian origin of the darker peoples of that continent.[1] Equally important from the same viewpoint is his observation of the "Mongolian mark" upon two Amerind children, if, indeed, the wish were not father to the observation, for he writes: "I have concluded that this presents a real character of the whole Mongolian race which one should also use for the solution of the much disputed question of the relationship between the Mongols and the North American Indians. I have now had the opportunity of examining in the mission station at North Vancouver, in British Columbia, two Indian children, one pure-blooded of two years, and a half-blood of eleven months. *Both children showed the blue marks*, but, it must be admitted, much less distinctly than do Mongolian children, so that one must look closely in order to notice them.

But I believe it must be admitted that even racial characters are, in the last analysis, dependent upon physiological causes, and as yet no one has attempted to inquire into the basic principle of this noteworthy stigma. Is it possible to assign its origin to the prenatal influences of custom and environment, acting upon an organization peculiar to Mongoloid — or Negroid —peoples? I think not. Climatic diversity precludes the ascribing of such remarkable results to heat and moisture. Were the Inuit alone involved, the almost torrid heat of the igloo interior might be adduced as a rather unsteady support of the hypothesis, but, excluding the Eskimo, the geographical range appears to extend from 50° north to 20° south latitude. But aside from

[1] Bælz, *Verh. der Ber. Gesell. f. Anth., Ethnol., u. Urgesch.*, 1901, S. 393.

this, the observations of Bælz on thermal pigmentation indicate that the cutaneous deposit of carbon as the result of exposure to heat, is not in circumscribed areas, but in a net-like complex. He notes this peculiar pigmented reticulation upon the lower extremities of Japanese merchants who sit on the edge of their "kotatsu," the heated excavation into which the feet depend, and which is covered by the robe, — among European marketwomen, who keep in winter a charcoal brazier under their gowns, — and also over the whole cutaneous surface of the professional bathing masters of European baths.[1] Since the manifestation of the effect of heat upon the skin materially differs from the discolorations under discussion, it is perfectly clear that any thermal influence upon the prenatal life of the child must be excluded.

One other hypothesis presents itself, one which was vaguely foreshadowed by Dr Chemin when he suggested that "these nævi may well be, so to speak, reserves of pigment (which are) used up in early life."[2]

The problem which I offer for consideration is this: May not these evanescent congenital pigmented areas be regarded as the nuclei of more general pigmentation, the regions wherein occurs the first deposition of the cutaneous pigment normal to the darker races and peoples, and is their apparent disappearance not to be explained by the deepening of the tint of the whole body surface?

The peculiarity of the blotches as observed by Bælz would seem to be that the pigment was found not in the deeper cells of the rete Malpighii, but in that part of the dermis adjacent thereto[3]; nevertheless, if Monsieur Bloch is correct, the normal development of pigment in the outermost dermal cells is a well established fact.[4] When it is remembered that the cells of the rete

[1] Ibid., p. 206.
[2] Chemin, loc. cit., p. 131.
[3] Deniker, loc. cit., p. 276, footnote. Also Bælz, loc. cit., S. 189.
[4] Ibid., in discussion, p. 281.

mucosum are derived from those of the dermis, the fact that the pigment of the so-called Mongolian mark is situate not in the deep epidermal cells but in the underlying dermal tissue becomes very significant, for it would seem to be precisely in the latter layer that the earliest deposit should be expected.

Von Bülow's statement that, owing to intermixture with other oceanic peoples, the color of the Samoans ranges from light brown to almost black, and that in accordance therewith varies the age at which the mark disappears, might be construed in favor of this supposition; but his personal knowledge of cases where the discoloration is permanent, *especially among dark-complexioned natives*,[1] presents a condition which would remain unexplained.

One other observation seems to militate against this theory. Dr Kohlbrügge remarks that the natives of the Malay archipelago are as fair as the immigrated Europeans, but the native children are more highly pigmented than the adults,[2] a statement which I am unable to reconcile with the hypothesis.

Should this prove to be the real solution of the question, we would expect to find such nuclei of pigmentation appearing early in the interuterine life of the negro. I am not aware whether or not this is the case, but according to Dr Chapman "the color of the dermis in the negro is the same as that of the white, and the whole skin of the negro fœtus is as pale as that of the white one, the pigment being developed in the deep cells of the rete mucosum only at or after birth."[3] Deniker, it would seem, is unaware of this, for in discussing the occurrence of the transient birthmarks among the natives of the Philippines, he takes occasion to say that "the pure Negritos could not have the pigmented marks upon their black skins; it probably refers there to mixed

[1] Von Bülow, loc. cit. "Doch kommen auch Fälle vor in denen dieser Fleck, —besonders bei dunkelfarbigen Eingeborenen—nie schwindet. Solche Fälle sind mir bekannt." Unfortunately he fails to state the distinction between such permanent forms of the *o le ila* and the second type of *ila*, the permanent mother's mark.

[2] Kohlbrügge, loc. cit.

[3] H. C. Chapman, *Treatise on Human Physiology*, 1899, p. 701.

Negrito-Indonesians."[1] It is for the specialist and for those better acquainted with the abundant literature relating to the negro to investigate this phase of the subject. Should such stigmata occur, and yet have remained unrecorded, for Africa, by travelers, the cause of the omission may lie in the widespread custom of darkening in smoke, or otherwise, all infants who do not attain to the correct tribal tint, a custom which is also in vogue in Samoa.[2]

Again, should the hypothesis advanced in this paper be correct, the presence of early pigmentation would be microscopically noticeable among the darker groups of the Eurafrican race, without in any sense predicating for them Mongoloid affinities. That such evanescent pigmentation does occur within the limits of this race, when expatriated, is shown by Dr Baumgarten's observation that "among full-blood Europeans also, this mark occasionally, though rarely, appears."[3]

It is greatly to be desired that the whole problem be considered by American anthropologists *sans parti pris*. We have here facilities for such study which do not exist in Europe. Of far more importance than the pointing out of racial characters is the discovery, the study, the verification of the fundamental principles of growth involved in the production of those race characters, when such in fact they prove to be.

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[1] Deniker, loc. cit., p. 276.

[2] Von Bülow, loc. cit.

[3] Quoted by ten Kate, loc. cit., S. 240.